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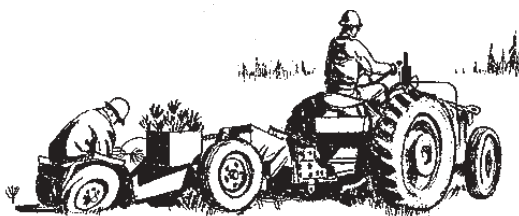
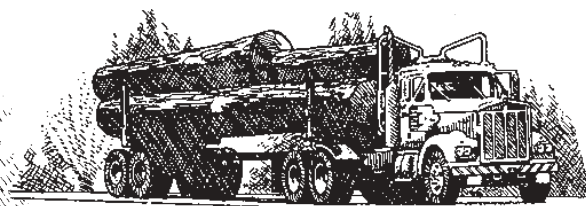
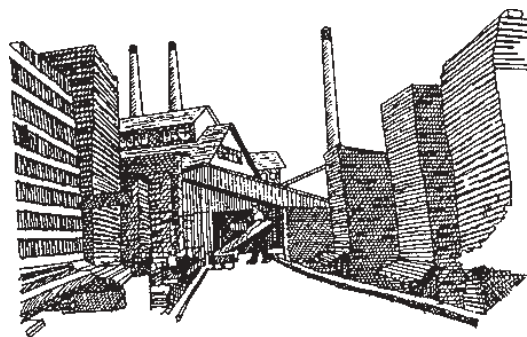
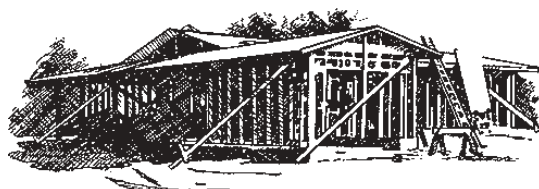
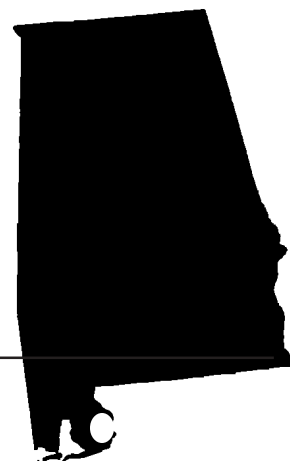


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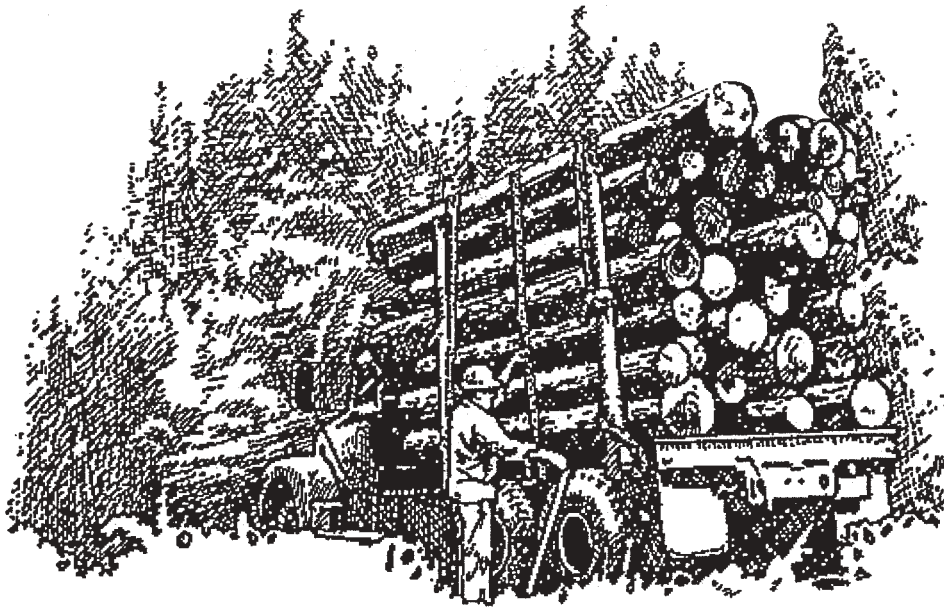
Alabama's Timber Industry— An Assessment of Timber Product Output and Use, 1999

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Foreword

This report contains the findings of a 1999 canvass of all primary wood-using plants in Alabama, and presents changes in product output and residue use since 1997. It complements the Forest Inventory and Analysis (FIA) periodic inventory of volume and removals from the State's timberland. The canvass was conducted to determine the amount and source of wood receipts and annual timber product drain, by county, in 1999 and to determine interstate and cross-regional movement of industrial roundwood. Only primary wood-using mills were canvassed. Primary mills are those that process roundwood in log or bolt form or as chipped roundwood. Examples of industrial roundwood products are saw logs, pulpwood, veneer logs, poles, and logs used for composite board products. Mills producing products from residues generated at primary and secondary processors were not canvassed. Trees chipped in the woods were included in the estimate of timber drain only if they were delivered to a primary domestic manufacturer.

A 100-percent canvass of all wood processors in Alabama was conducted in 2000 to obtain information for 1999. In addition, roundwood from out-of-State mills known to be using logs or bolts harvested from Alabama timberland was incorporated into Alabama production estimates. Each mill was canvassed by mail or through personal contact at plant locations. Telephone contacts followed mailed

questionnaire responses when additional information or clarification of a response was necessary. In the event of a nonresponse, data collected in previous surveys were updated using current data collected for mills of similar size, product type, and location. Surveys for all timber products other than pulpwood began in 1961, and are currently conducted every 2 years.

Pulpwood production data were taken from an annual canvass of all southeastern pulpmills. Medium density fiberboard, insulating board, and hardboard plants were included in this survey.

Acknowledgments

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The Southern Research Station gratefully acknowledges the cooperation and assistance provided by the Alabama Forestry Commission in collecting mill data. Appreciation is also extended to forest industry and mill managers for providing timber products information.

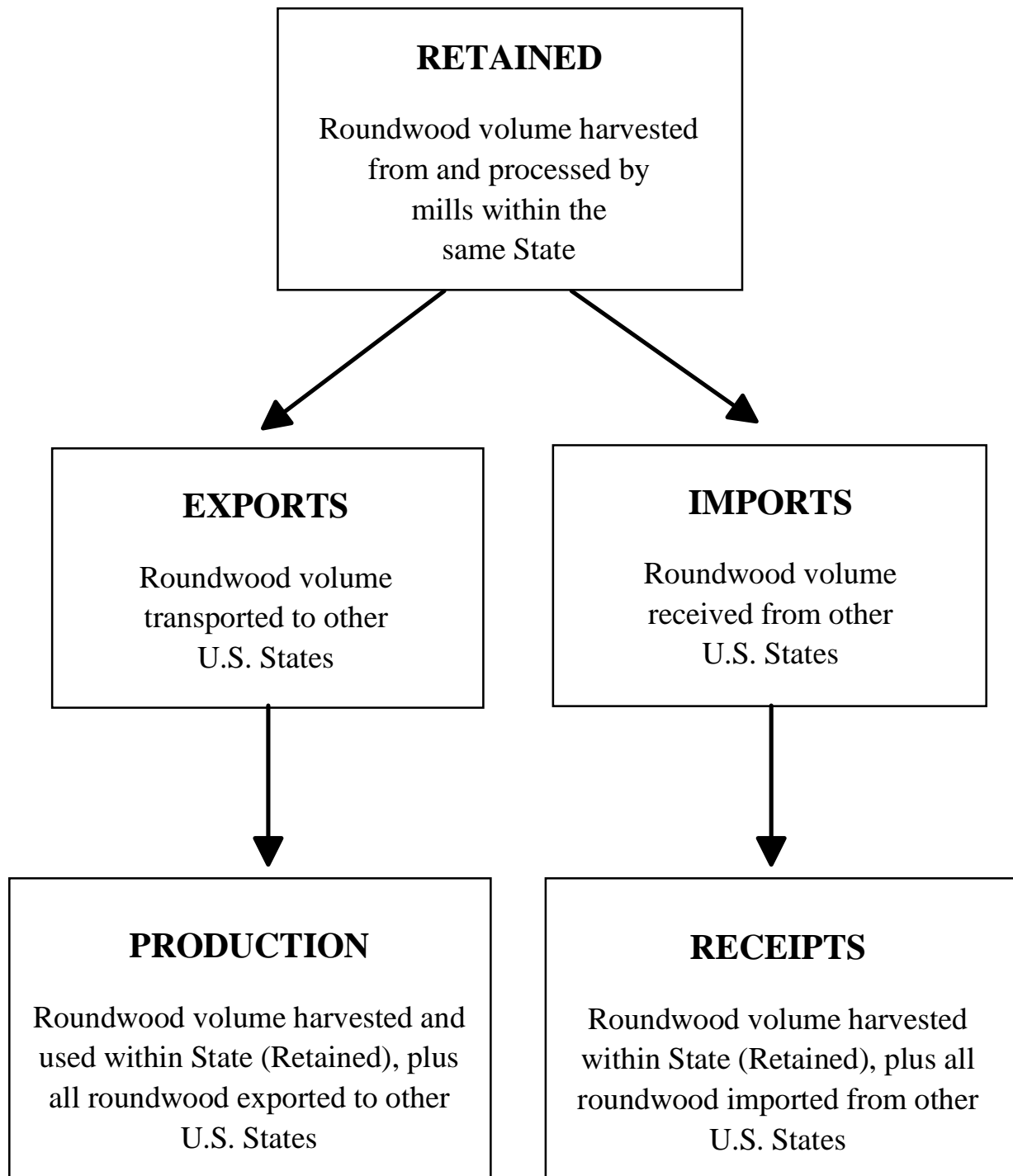


Contents

	<i>Page</i>
Output of Industrial Timber Products	1
All Products	1
Pulpwood	4
Saw Logs	5
Veneer Logs	5
Composite Panels	6
Other Industrial Products	6
Plant Byproducts	6
Regional Trends	8
Southwest South Region	8
Southwest North Region	8
Southeast Region	8
West Central Region	8
North Central Region	9
North Region	9
Total Roundwood Output	9
Source	9
Ownership	9
Species	9
References	10
Definition of Terms	11
Conversion Factors	14
Index of Tables	15
Tables 1–28 ^a	17

^a All tables in this report are available in Microsoft® Excel workbook files. Upon request, these files will be supplied on 3½-inch diskettes.

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$$\text{Production} = \text{Retained} + \text{Exports}$$

$$\text{Receipts} = \text{Retained} + \text{Imports}$$

Figure 1—Movement of roundwood exports and imports within the United States.

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Output of Industrial Timber Products

Note: Certain terms used in this report—retained, export, import, production, and receipts—have specialized meanings and relationships unique to the Forest Inventory and Analysis Units across the country that deal with timber products output (fig. 1).

All Products

- Between 1997 and 1999, the combined industrial timber products output (TPO) from roundwood and plant byproducts declined from 1.82 billion cubic feet to 1.68 billion cubic feet.
- Timber products output from roundwood was down 135 million cubic feet, or 10 percent, to 1.21 billion cubic

feet, while output of plant byproducts was down 9 million cubic feet to 468 million cubic feet.

- Output of softwood roundwood products declined 7 percent to 891 million cubic feet, while output of hardwood roundwood products declined 18 percent to 319 million cubic feet (fig. 2).
- Figures 3 and 4 display softwood and hardwood county-level intensity of roundwood production for all industrial products across Alabama. The data are depicted in cubic feet produced per acre of census land area. Counties with the highest production intensity are depicted in the darker shades. For softwoods the darkest shade represents more than 40 cubic feet of production per acre, while for hardwoods the darkest shade represents more than 15 cubic feet per acre.

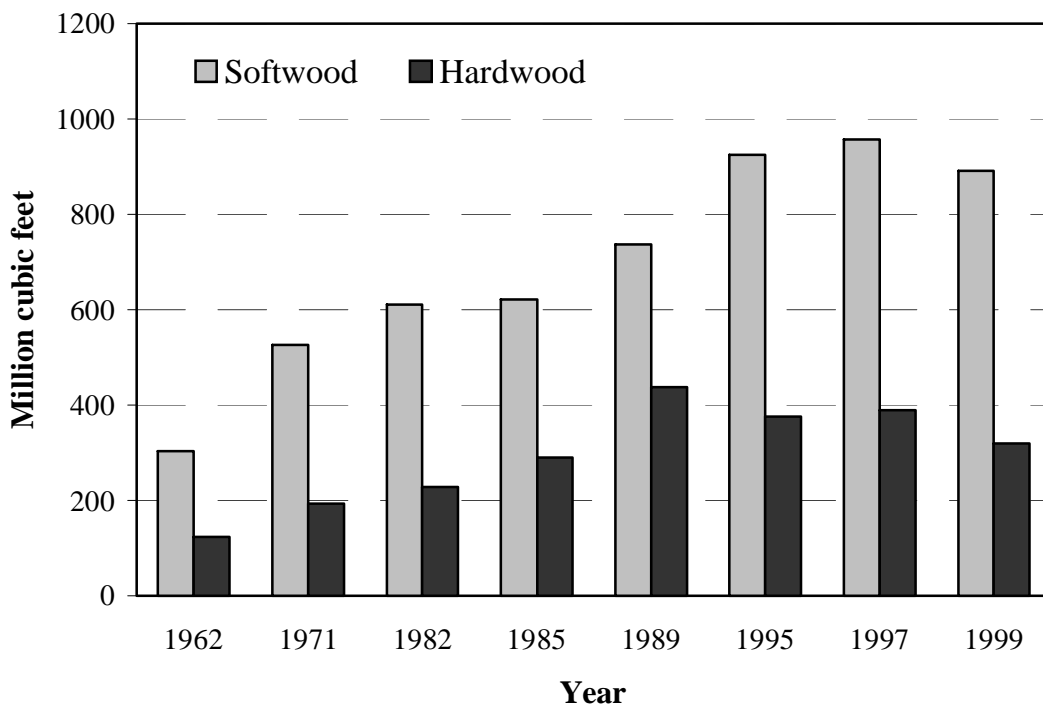


Figure 2—Roundwood production for all products by species group and year (see page 10 for references for individual years).

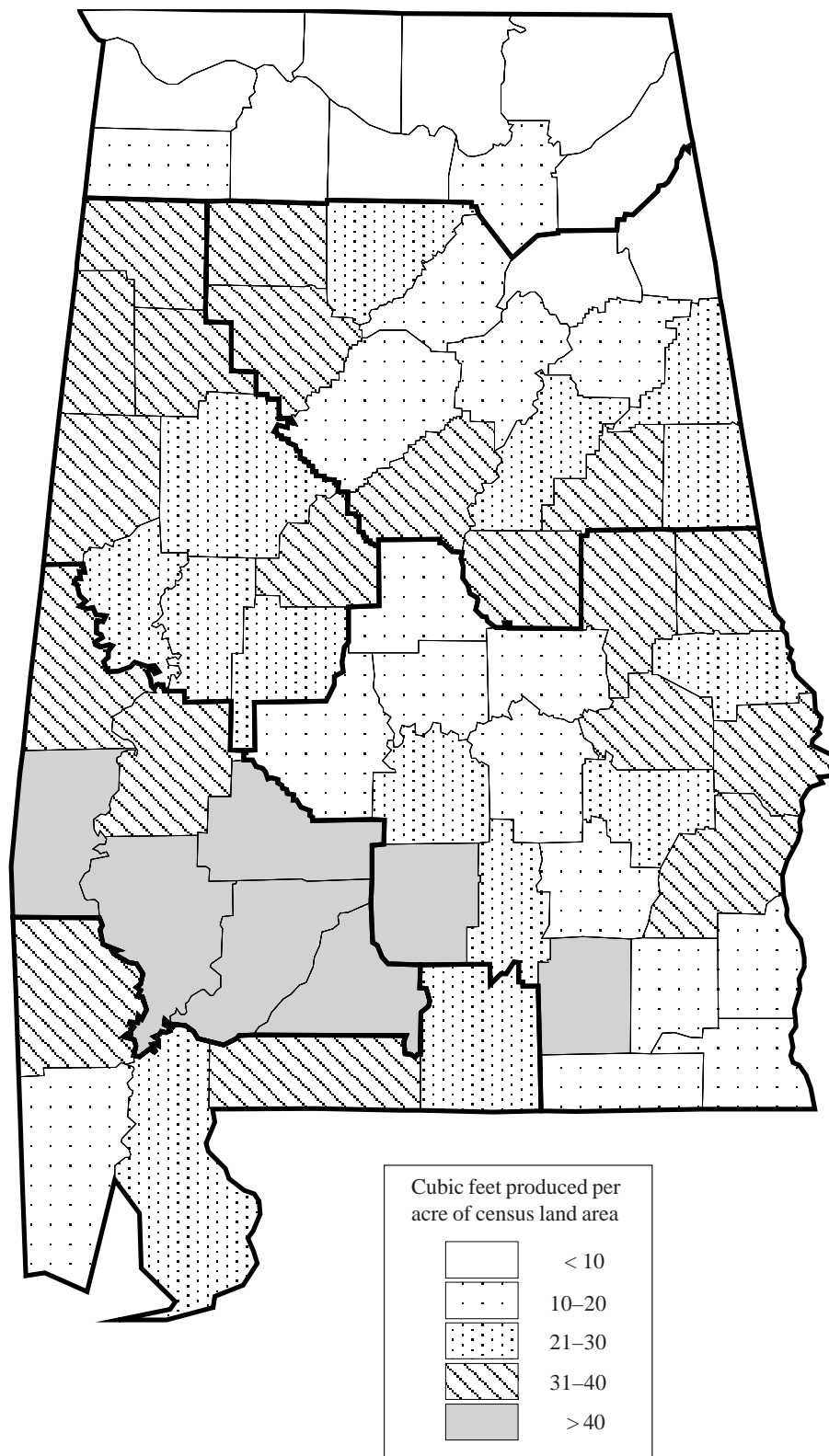


Figure 3—Intensity of roundwood softwood output for all industrial products in Alabama by county, 1999.

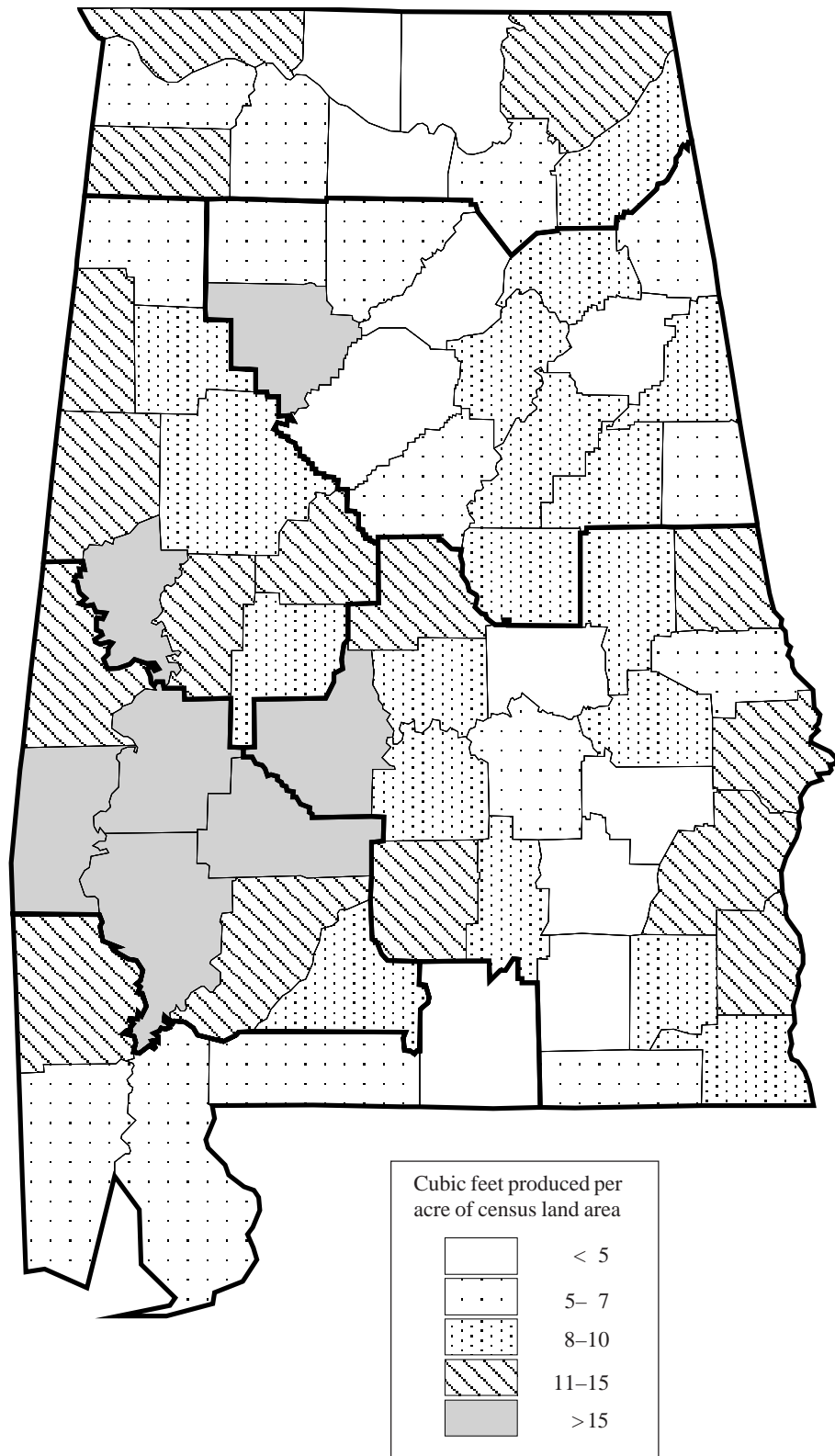


Figure 4—Intensity of roundwood hardwood output for all industrial products in Alabama by county, 1999.

- Pulpwood and saw logs were the principal roundwood products in 1999. Combined output of these products totaled 1.07 billion cubic feet and accounted for 88 percent of Alabama's total roundwood output (fig. 5).
- Total receipts at Alabama mills, which included roundwood harvested and retained in the State as well as roundwood imported from other States, decreased 7 percent to 1.33 billion cubic feet. The number of primary roundwood-using plants in Alabama totaled 181 in 1999.

Pulpwood

- Total pulpwood production, including chipped roundwood, decreased 124 million cubic feet to 641 million cubic feet (8.7 million cords) and accounted for 53 percent of the State's total roundwood TPO. Softwood output decreased 10 percent to 418 million cubic feet; hardwood output decreased 26 percent to 223 million cubic feet (fig. 6).
- Fifteen pulpmill facilities were operating and receiving roundwood in Alabama in 1999, one fewer than in 1997. Total pulpwood receipts for these mills decreased 99 million cubic feet to 744 million cubic feet, accounting for 56 percent of total receipts for all mills.

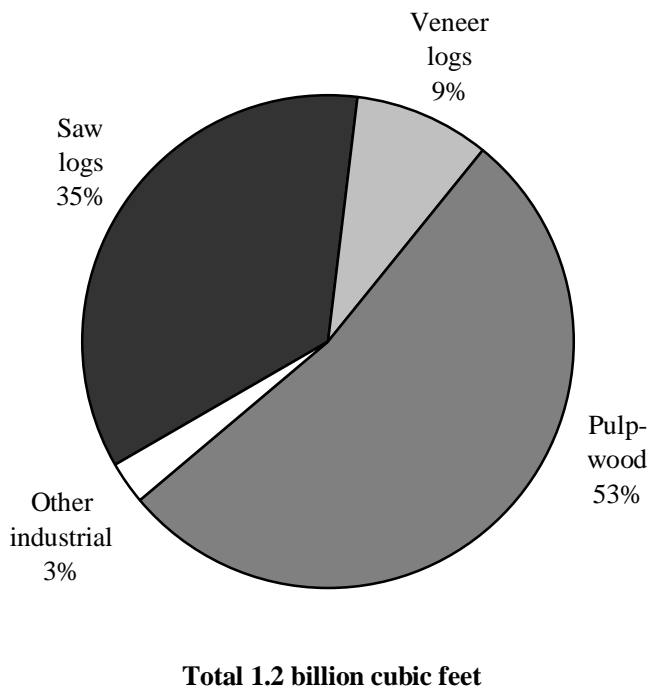


Figure 5—Roundwood production by type of product, 1999.

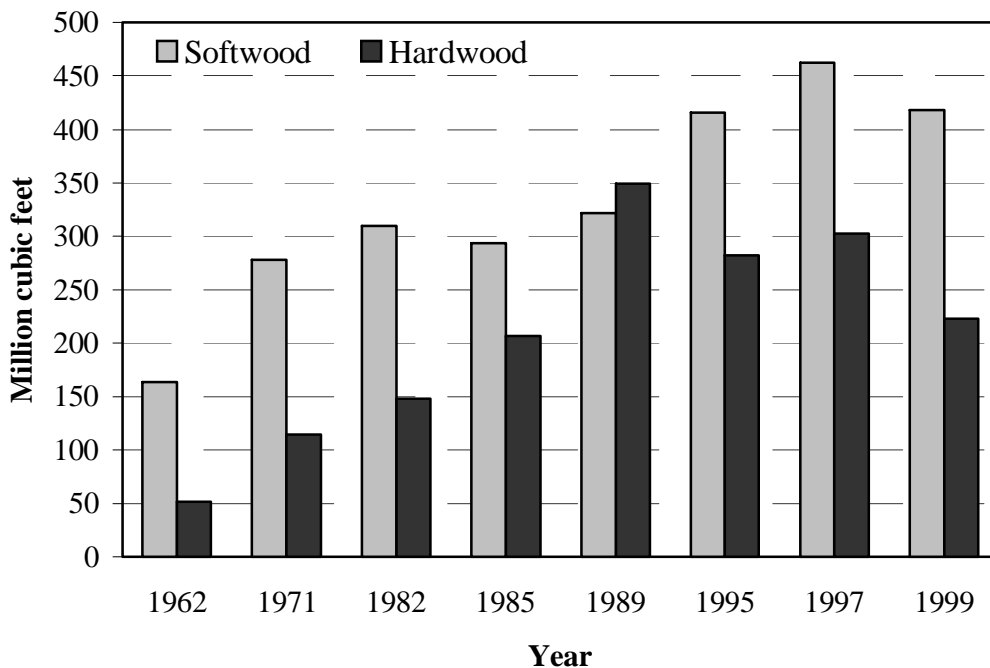


Figure 6—Roundwood pulpwood production by species group and year (see page 10 for references for individual years).

- Eighty-five percent of roundwood cut for pulpwood was retained for processing at Alabama pulpmills. Roundwood pulpwood accounted for 60 percent of total known exports and 72 percent of total imports. Roundwood pulpwood imports amounted to 197 million cubic feet, 103 million cubic feet more than was exported.

Saw Logs

- Saw logs accounted for 35 percent of the State's total roundwood products. Output of softwood saw logs fell 7 percent to 354 million cubic feet (1.9 billion board feet, International 1/4-inch rule), while that of hardwood saw logs increased 6 percent to 72 million cubic feet (409 million board feet, International 1/4-inch rule) (fig. 7).
- In 1999, Alabama had 121 sawmills, a net loss of 24 mills since 1997. Total saw-log receipts declined 14 million cubic feet to 440 million cubic feet. Softwood saw-log receipts were down 4 percent to 368 million cubic feet, while those of hardwoods remained stable at 72 million cubic feet. Of the operating mills in 1999, 19 percent had receipts of less than 1 million board feet,

while 40 percent had receipts greater than 10 million board feet. These 49 mills, however, accounted for 91 percent of total saw-log receipts.

- Alabama retained 89 percent of its saw-log production for domestic manufacture; saw-log imports exceeded exports by 14 million cubic feet in 1999.

Veneer Logs

- Output of veneer logs in 1999 totaled 109 million cubic feet and accounted for 9 percent of the State's total roundwood TPO volume. Softwood veneer production increased to 85 million cubic feet (523 million board feet, International 1/4-inch rule); output of hardwood veneer logs increased 34 percent to 24 million cubic feet (146 million board feet, International 1/4-inch rule) (fig. 8).
- Twenty-three veneer mills were operating in Alabama in 1999. Total receipts of veneer logs increased 19 percent to 102 million cubic feet. Softwood veneer receipts increased 10 million cubic feet to 80 million cubic feet.

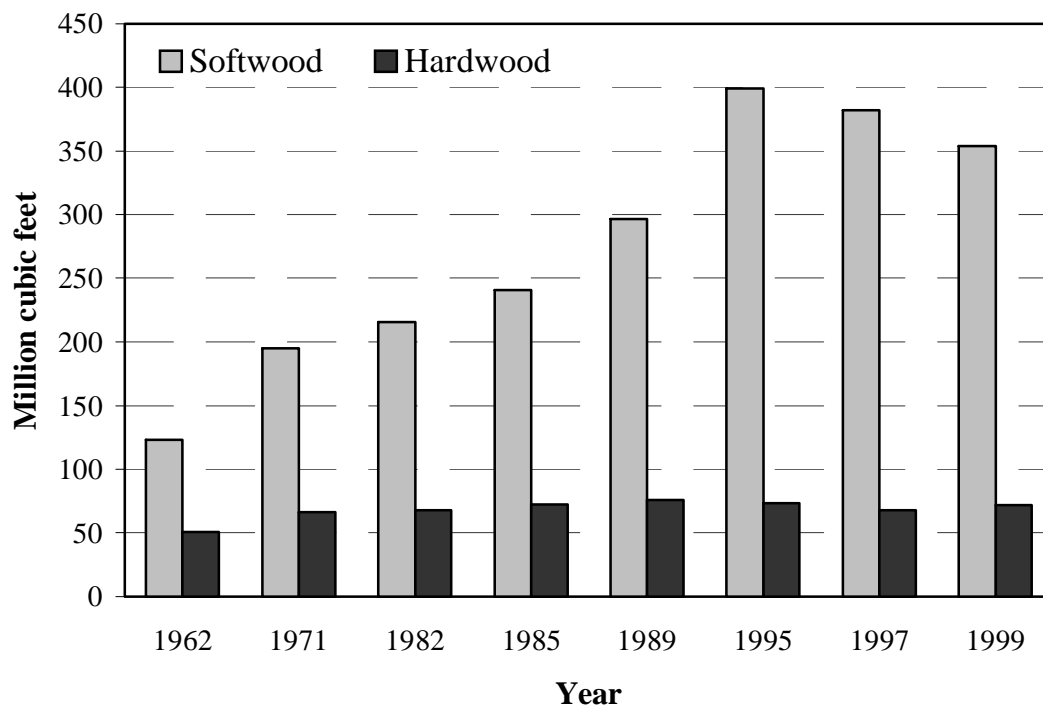


Figure 7—Roundwood saw-log production by species group and year (see page 10 for references for individual years).

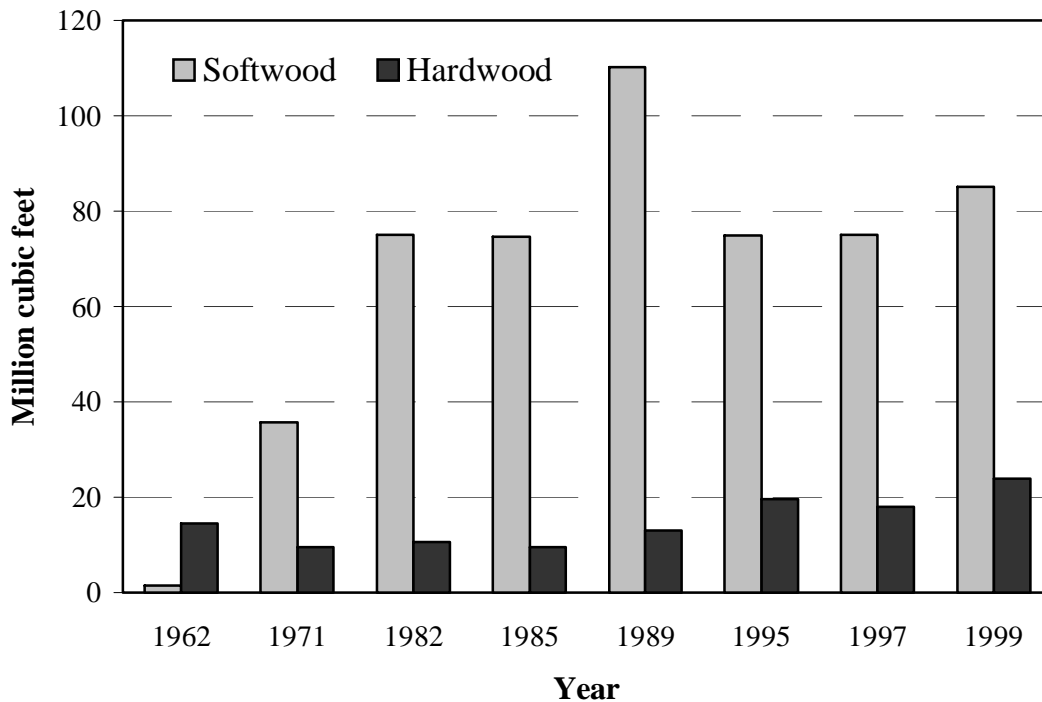


Figure 8—Roundwood veneer-log production by species group and year (see page 10 for references for individual years).

- Alabama retained 87 percent of its veneer-log production for processing at domestic veneer mills. Imports amounted to 8 million cubic feet, and exports totaled 14 million cubic feet, making the State a net exporter of roundwood veneer logs.

Other Industrial Products

- Roundwood harvested for other industrial uses, such as poles, posts, mulch, firewood, composite panels, and all other industrial products, declined 8 percent to 35 million cubic feet. Other industrial product volume accounted for 3 percent of the State's total TPO volume. Softwood made up 99 percent of the other industrial product volume (fig. 9).
- A total of 22 plants produced other industrial products in 1999. Combined receipts of other industrial products from softwood and hardwood declined 5 percent to 41 million cubic feet.
- Alabama was a net importer of roundwood used for other industrial products; of the 6.5 million cubic feet imported, 99 percent was softwood.

Plant Byproducts

- In 1999, processing of primary products in Alabama mills generated 469 million cubic feet of wood and bark residues. Coarse residues from all primary products were 172 million cubic feet, while bark volume totaled 168 million cubic feet. Sawdust and shavings made up 28 percent of total residues, or 129 million cubic feet (fig. 10).
- Virtually all of the wood and bark residues were used for a product; less than 1 percent was not used, while 56 percent of the residues were used for industrial fuel (fig. 11). More than 137 million cubic feet, or 80 percent, of the coarse residues were used to manufacture fiber products. Most of the bark was used for industrial fuel or other miscellaneous products, while 68 percent of the sawdust and shavings were used for industrial fuel.
- The processing of saw logs generated 263 million cubic feet of mill residues, accounting for 56 percent of the total residues produced (fig. 12).

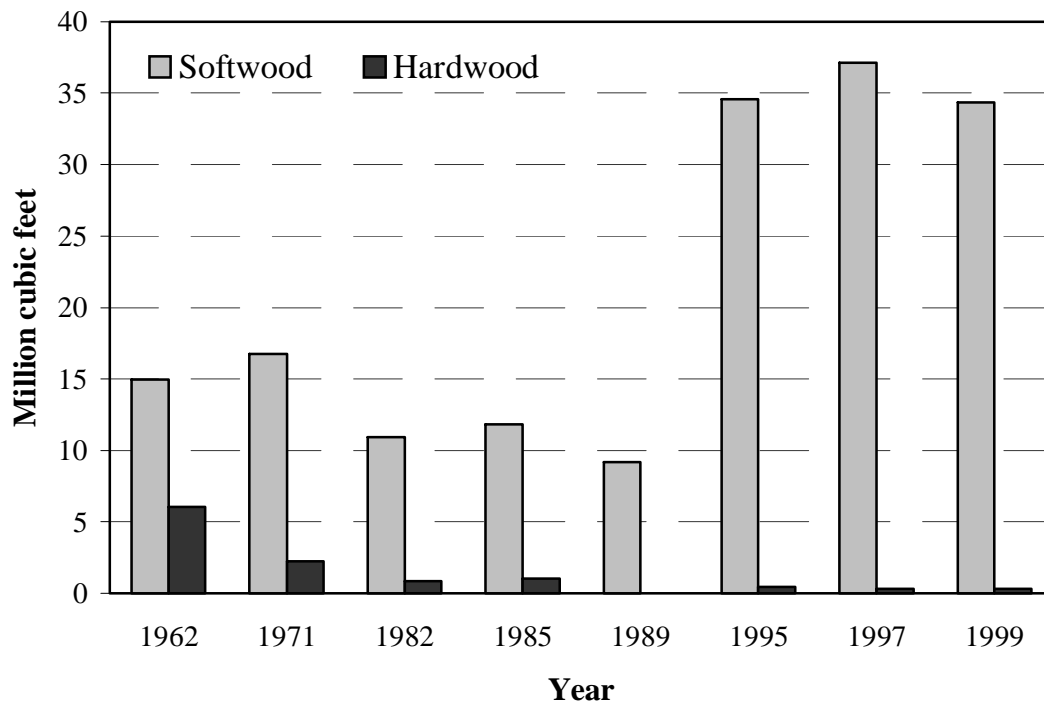


Figure 9—Roundwood production for composite panels by species group and year (see page 10 for references for individual years).

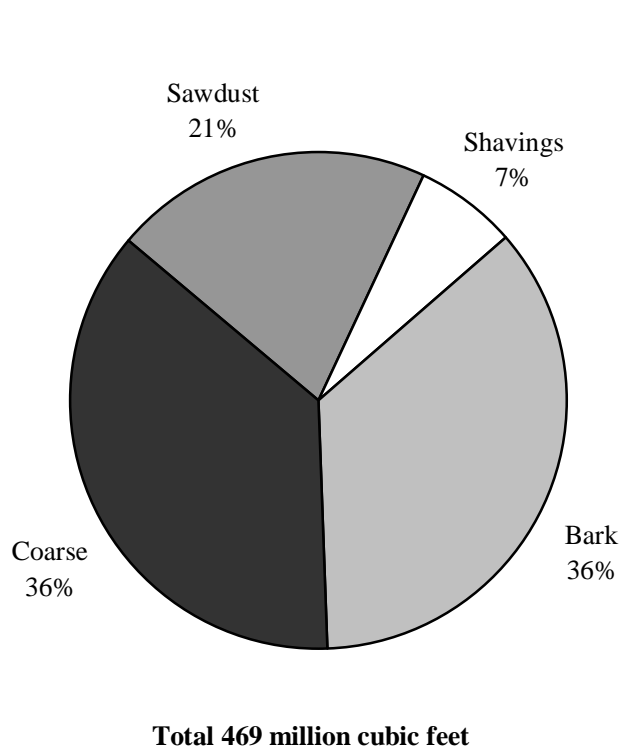


Figure 10—Primary mill residue by residue type, 1999.

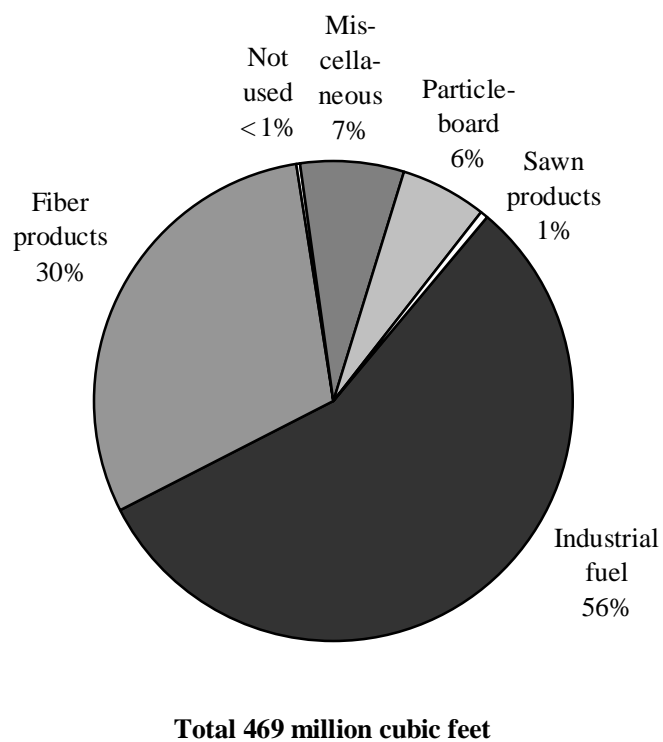


Figure 11—Disposal of residue by product, 1999.

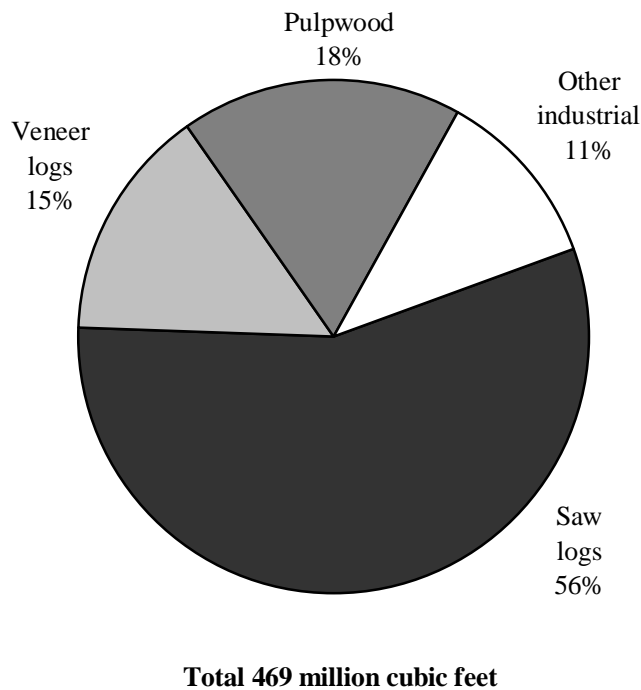


Figure 12—Primary mill residue produced by roundwood type, 1999.

Regional Trends

- Output of industrial roundwood products declined in all regions, with the exception being the Southwest North region of Alabama. This region showed a 5-percent increase in product output. The North Central and Northern regions of Alabama had substantial declines at 27 and 18-percent, respectively.

Southwest South Region

- Roundwood output from the Southwest South region totaled 134 million cubic feet in 1999, a 12-percent decline. Softwood output declined 15.5 million cubic feet to 107 million cubic feet; hardwood output declined 7 percent to 27 million cubic feet.
- Pulpwood accounted for 51 percent of the region's TPO and 11 percent of the State's roundwood pulpwood output. The 50 million cubic feet of saw logs accounted for 37 percent of the total roundwood output for the region.
- In the Southwest South region, 19 primary wood-using plants were operating during 1999: 9 sawmills, 2 pulp-mills, and 8 other miscellaneous mills. These mills processed 11 percent of the State's total roundwood output.

Southwest North Region

- Three hundred and twelve million cubic feet of roundwood were produced in the Southwest North region of Alabama, a 5-percent increase. Softwood output increased 3 percent to 229 million cubic feet; hardwood production was up 11 percent to 83 million cubic feet.
- Saw-log production of 115 million cubic feet accounted for 37 percent of the region's total roundwood output. Production of pulpwood at 154 million cubic feet accounted for 49 percent of the region's total roundwood output.
- The 45 mills operating in the Southwest North region in 1999 included 22 sawmills, 8 veneer or plywood mills, 7 pulpmills, and 8 other miscellaneous mills.

Southeast Region

- Roundwood output from the Southeast region totaled 327 million cubic feet in 1999, a 7-percent decline. Softwood production was down 1 percent to 248 million cubic feet; hardwood output declined 22 percent to 79 million cubic feet.
- Pulpwood accounted for 64 percent of the region's TPO and 33 percent of the State's roundwood pulpwood output. The 82 million cubic feet of saw logs accounted for 25 percent of the total roundwood output for the region.
- In the Southeast region, 42 primary wood-using plants were operating during 1999: 27 sawmills, 11 veneer or plywood mills, 3 pulpmills, and 1 other miscellaneous mill. These mills processed 27 percent of the State's total roundwood output.

West Central Region

- Roundwood output from the West Central region totaled 170 million cubic feet, a 9-percent decline. Softwood remained at 124 million cubic feet; hardwood output was down 28 percent to 46 million cubic feet. Roundwood production from this region accounted for 14 percent of the total roundwood TPO for the State.
- Pulpwood production of 66 million cubic feet accounted for 39 percent of the region's total TPO. Saw-log production of 87 million cubic feet accounted for another 51 percent of the region's total roundwood output.

- The 32 primary wood-using plants operating in the West Central region included 26 sawmills, 3 veneer or plywood mills, and 3 other miscellaneous mills.

North Central Region

- Roundwood output from the North Central region totaled 207 million cubic feet in 1999, a 27-percent decline. Softwood output declined 23 percent from 205 million cubic feet in 1997 to 158 million cubic feet in 1999. Hardwood production declined 39 percent to 49 million cubic feet.
- Production of pulpwood at 106 million cubic feet accounted for 51 percent of the region's total roundwood output. Saw-log production of 69 million cubic feet accounted for 33 percent of the region's total roundwood output.
- In the North Central region, 27 primary wood-using plants were operating during 1999: 23 sawmills, 1 veneer or plywood mill, 1 pulpmill, 1 composite panel mill, and 1 other miscellaneous mill.

North Region

- Roundwood output from the North region totaled 59 million cubic feet, an 18-percent decline since 1997. Softwood output was down 29 percent to 24 million cubic feet; hardwood output declined 10 percent to 36 million cubic feet.
- Saw-log production totaled 22 million cubic feet and accounted for 37 percent of the region's total roundwood output. Pulpwood production of 36 million cubic feet accounted for 60 percent of the region's total TPO.
- In the North region, 16 primary wood-using plants were operating during 1999: 14 sawmills and 2 pulpmills.

Total Roundwood Output

Using the most recent inventory data for Alabama, product output by source, ownership, and detailed species group was estimated.

Source

- In addition to the 1.2 billion cubic feet of roundwood output for industrial roundwood products, an estimated 31 million cubic feet was harvested for domestic fuelwood, bringing Alabama's total roundwood output to 1.3 billion cubic feet.

- Ninety-two percent of total roundwood output was considered growing-stock volume (sawtimber and poletimber) from timberland sources. Other sources (such as saplings; stumps, tops, and limbs of trees on timberland; and trees on nonforest land) contributed an estimated 97 million cubic feet, or 8 percent of total roundwood output (fig. 13).

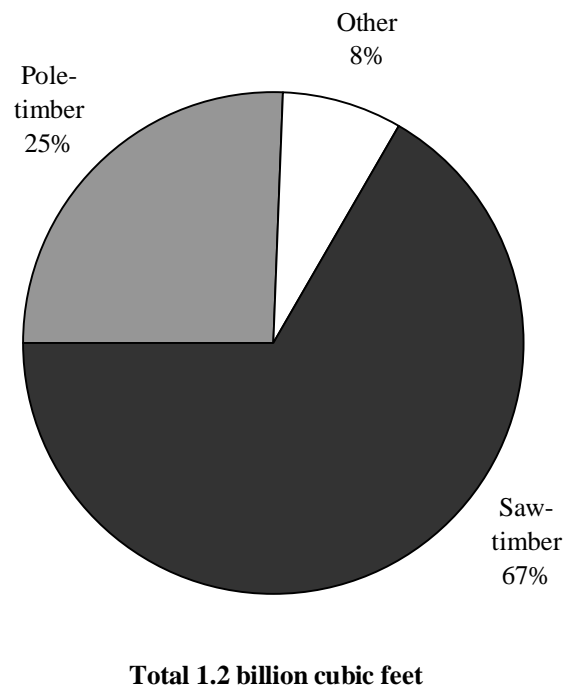


Figure 13—Roundwood output by source, 1999.

Ownership

- An estimated 877 million cubic feet, or 71 percent, of the total roundwood output came from nonindustrial private forest lands. Forest industry lands contributed 325 million cubic feet, or 26 percent of the output. Public lands made up the remaining 3 percent, or 39 million cubic feet (fig. 14).

Species

- The loblolly and shortleaf pine group provided more volume than any other softwood species group, accounting for 81 percent of the total softwood output (fig. 15). The longleaf and slash pine type accounted for 14 percent of the softwood output. The red oak and white oak groups combined accounted for 159 million cubic feet, or 46 percent of total hardwood output (fig. 16).

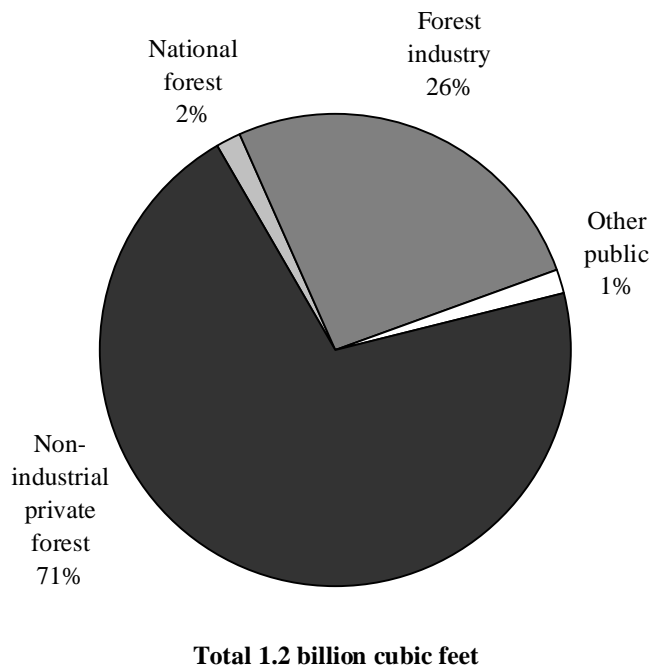


Figure 14—Roundwood output by ownership, 1999.

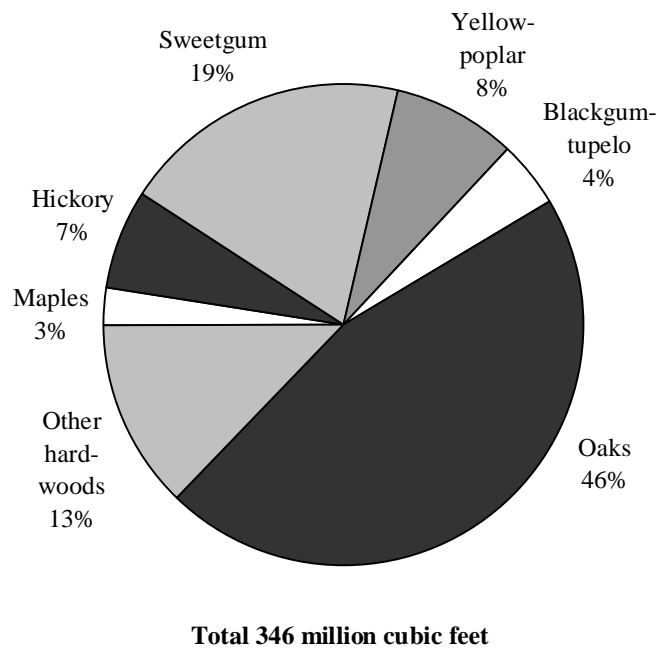


Figure 16—Roundwood output by hardwood species group, 1999.

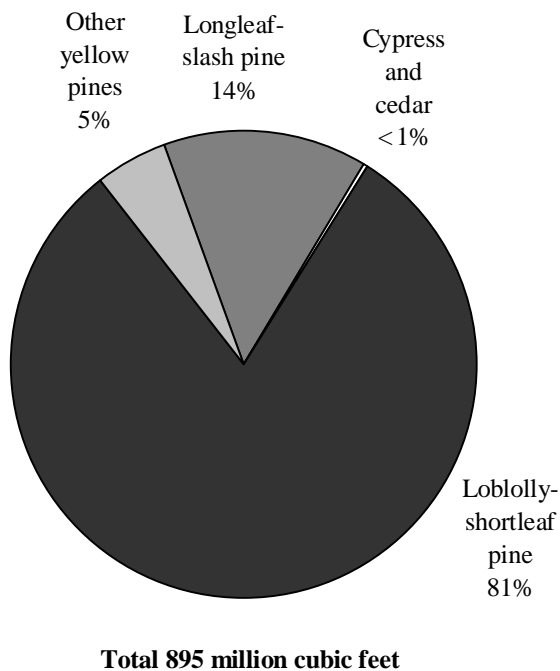


Figure 15—Roundwood output by softwood species group, 1999.

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Definition of Terms

Board foot. Unit of measure applied to roundwood. It relates to lumber that is 1-foot long, 1-foot wide, and 1-inch thick (or its equivalent).

Byproducts. Primary wood products, e.g., pulp chips, animal bedding, fuelwood, recycled from mill residues.

Composite products. Roundwood products manufactured into chips, wafers, strands, flakes, shavings, or sawdust and then reconstituted into a variety of panel and engineered lumber products.

Consumption. The quantity of a commodity, such as pulpwood, utilized by a particular mill or group of mills.

Drain. The volume of roundwood removed from any geographic area where timber is grown.

Exports. The volume of roundwood utilized by mills outside the State where timber was cut.

Fiber products. Byproducts used in the manufacture of pulp, paper, paperboard, and composite products, such as waferboard or chipboard.

Fuelwood production. The volume of roundwood harvested to produce some form of energy, e.g., heat, steam, in residential, industrial, or institutional settings.

Growing-stock removals. The growing-stock volume removed from poletimber and sawtimber trees in the timberland inventory. (Note: Includes volume removed for roundwood products, logging residues, and other removals.)

Growing-stock trees. Living trees of commercial species classified as sawtimber, poletimber, saplings, and seedlings. Growing-stock trees must contain at least one 12-foot or two 8-foot logs in the saw-log portion, currently or potentially (if too small to qualify). The log(s) must meet dimension and merchantability standards and have, currently or potentially, one-third of the gross board-foot volume in sound wood.

Growing-stock volume. The cubic-foot volume of sound wood in growing-stock trees at least 5.0 inches d.b.h. from a 1-foot stump to a minimum 4.0-inch top d.o.b. of the central stem.

Hardwoods. Dicotyledonous trees, usually broadleaf and deciduous.

Soft hardwoods. Hardwood species with an average specific gravity of 0.50 or less, such as gums, yellow-poplar, cottonwoods, red maple, basswoods, and willows.

Hard hardwoods. Hardwood species with an average specific gravity greater than 0.50, such as oaks, hard maples, hickories, and beech.

Imports. The volume of roundwood delivered to a mill or group of mills in a specific State but harvested outside that State.

Industrial fuelwood. A roundwood product, with or without bark, used to generate energy at a manufacturing facility such as a wood-using mill.

Industrial roundwood products. Any primary use of the main stem of a tree, such as saw logs, pulpwood, veneer logs, intended to be processed into primary wood products such as lumber, wood pulp, sheathing, at primary wood-using mills.

International ¼-inch rule. A log rule or formula for estimating the board-foot volume of logs, allowing ½-inch of taper for each 4-foot length. The rule appears in a number of forms that allow for kerf. In the form used by FIA, a ¼-inch of kerf is assumed. This rule is used as the USDA Forest Service standard log rule in the Eastern United States.

Log. A primary forest product harvested in long, primarily 8-, 12-, and 16-foot lengths.

Logging residues. The unused merchantable portion of growing-stock trees cut or destroyed during logging operations.

Merchantable portion. That portion of live trees 5.0 inches d.b.h. and larger between a 1-foot stump and a minimum 4.0-inch top d.o.b. on the central stem. That portion of primary forks from the point of occurrence to a minimum 4.0-inch top d.o.b. is included.

Merchantable volume. Solid-wood volume in the merchantable portion of live trees.

Noncommercial species. Tree species of typically small size, poor form, or inferior quality that normally do not develop into trees suitable for industrial wood products.

Nonforest land. Land that has never supported forests and land formerly forested where timber production is precluded by development for other uses.

Nongrowing-stock sources. The net volume removed from the nongrowing-stock portions of poletimber and sawtimber trees (stumps, tops, limbs, cull sections of central stem) and from any portion of a rough, rotten, sapling, dead, or nonforest tree.

Other forest land. Forest land other than timberland and productive reserved forest land. It includes available and reserved forest land that is incapable of producing annually 20 cubic feet per acre of industrial wood under natural conditions because of adverse site conditions such as sterile soils, dry climate, poor drainage, high elevation, steepness, or rockiness.

Other products. A miscellaneous category of roundwood products, e.g., cooperage, excelsior, shingles, and mill residue byproducts (charcoal, bedding, mulch, etc.).

Other removals. The growing-stock volume of trees removed from the inventory by cultural operations such as timber stand improvement, land clearing, and other changes in land use, resulting in the removal of the trees from timberland.

Other sources. (see: Nongrowing-stock sources.)

Ownership. The property owned by one ownership unit, including all parcels of land in the United States.

National forest land. Federal land that has been legally designated as national forests or purchase units, and other land under the administration of the Forest Service, including experimental areas and Bankhead-Jones Title III land.

Forest industry land. Land owned by companies or individuals operating primary wood-using plants.

Nonindustrial private forest (NIPF) land. Privately owned land excluding forest industry land.

Corporate. Owned by corporations, including incorporated farm ownerships.

Individual. All lands owned by individuals, including farm operators.

Other public. An ownership class that includes all public lands except national forests.

Miscellaneous Federal land. Federal land other than national forests.

State, county, and municipal land. Land owned by States, counties, and local public agencies or municipalities, or land leased to these governmental units for 50 years or more.

Plant residues. Wood material generated in the production of timber products at primary manufacturing plants.

Coarse residues. Material, such as slabs, edgings, trim, veneer cores and ends, which is suitable for chipping.

Fine residues. Material, such as sawdust, shavings, and veneer chippings, which is not suitable for chipping.

Plant byproducts. Residues (coarse or fine) used in the further manufacture of industrial products for consumer use or as fuel.

Unused plant residues. Residues (coarse or fine) that are not used for any product, including fuel.

Posts, poles, and pilings. Roundwood products milled (cut or peeled) into standard sizes (lengths and circumferences) to be put in the ground to provide vertical and lateral support in buildings, foundations, utility lines, and fences. May also include nonindustrial (unmilled) products.

Poletimber-size trees. Softwoods 5.0 to 8.9 inches d.b.h. and hardwoods 5.0 to 10.9 inches d.b.h.

Primary wood-using plants. Industries that convert roundwood products (saw logs, veneer logs, pulpwood, etc.) into primary wood products, such as lumber, veneer or sheathing, wood pulp.

Production. The total volume of roundwood harvested from land within a State, regardless of where it is consumed. Production is the sum of timber harvested and used within a State, and all roundwood exported to other States.

Pulpwood. A roundwood product that will be reduced to individual wood fibers by chemical or mechanical means. The fibers are used to make a broad generic group of pulp products that includes paper products, as well as chipboard, fiberboard, insulating board, and paperboard.

Receipts. The quantity or volume of industrial roundwood received at a mill or by a group of mills in a State, regardless of the geographic source. Volume of roundwood receipts is equal to the volume of roundwood retained in a State plus roundwood imported from other States.

Retained. Roundwood volume harvested from and processed by mills within the same State.

Rotten trees. Live trees of commercial species not containing at least one 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, now or prospectively, primarily because of rot or missing sections, and with less than one-third of the gross board-foot tree volume in sound material.

Rough trees. Live trees of commercial species not containing at least one 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, now or prospectively, primarily because of roughness, poor form, splits, and cracks, and with less than one-third of the gross board-foot tree volume in sound material; and live trees of noncommercial species.

Roundwood (roundwood logs). Logs, bolts, or other round sections cut from trees for industrial manufacture or consumer uses.

Roundwood chipped. Any timber cut primarily for industrial manufacture, delivered to nonpulp mills, chipped, and then sold to pulpmills for use as fiber. Includes tops, jump sections, whole trees, and pulpwood sticks.

Roundwood products. Any primary product, such as lumber, poles, pilings, pulp, or fuelwood that is produced from roundwood.

Roundwood product drain. That portion of total drain used for a product.

Salvable dead trees. Standing or downed dead trees that were formerly growing stock and considered merchantable. Trees must be at least 5.0 inches d.b.h. to qualify.

Saplings. Live trees 1.0 to 5.0 inches d.b.h.

Saw log. A roundwood product, usually 8 feet in length or longer, processed into a variety of sawn products such as lumber, cants, pallets, railroad ties, and timbers.

Saw-log portion. The part of the bole of sawtimber trees between a 1-foot stump and the saw-log top.

Saw-log top. The point on the bole of sawtimber trees above which a conventional saw log cannot be produced. The minimum saw-log top is 7.0 inches d.o.b. for softwoods and 9.0 inches d.o.b. for hardwoods.

Sawtimber-size trees. Softwoods 9.0 inches d.b.h. and larger and hardwoods 11.0 inches d.b.h. and larger.

Sawtimber volume. Growing-stock volume in the saw-log portion of sawtimber-sized trees in board feet (International ¼-inch rule).

Seedlings. Trees less than 1.0 inch d.b.h. and greater than 1 foot tall for hardwoods, greater than 6 inches tall for softwood, and greater than 0.5 inch in diameter at ground level for longleaf pine.

Select red oaks. A group of several red oak species composed of cherrybark, Shumard, and northern red oaks. Other red oak species are included in the other red oaks group.

Select white oaks. A group of several white oak species composed of white, swamp chestnut, swamp white, chinkapin, Durand, and bur oaks. Other white oak species are included in the other white oaks group.

Softwoods. Coniferous trees, usually evergreen, having leaves that are needles or scalelike.

Standard cord. A unit of measure applied to roundwood, usually bolts or split wood. It is a stack of wood 4 feet high, 4 feet wide, and 8 feet long encompassing 128 cubic feet of wood, bark, and air space. This usually translates to approximately 75.0 to 81.0 cubic feet of solid wood for pulpwood, because pulpwood is more uniform.

Standard unit. A unit measure applied to roundwood timber products. Board feet (International ¼ rule) is the standard unit used for saw logs and veneer; cords are used for pulpwood, composite panel, and fuelwood; hundred pieces for poles; thousand pieces for posts; and thousand cubic feet for all other miscellaneous forest products.

Timberland. Forest land capable of producing 20 cubic feet of industrial wood per acre per year and not withdrawn from timber utilization.

Timber products. Roundwood products and byproducts.

Timber products output. The total volume of roundwood products from all sources plus the volume of byproducts recovered from mill residues (equals roundwood product drain).

Timber removals. The total volume of trees removed from the timberland inventory by harvesting, cultural operations such as stand improvement, land clearing, or changes in land use. (Note: Includes roundwood products, logging residues, and other removals.)

Tree. Woody plants having one erect perennial stem or trunk at least 3 inches d.b.h., a more or less definitely formed crown of foliage, and a height of at least 13 feet (at maturity).

Upper-stem portion. The part of the main stem of sawtimber trees above the saw-log top and the minimum top diameter of 4.0 inches outside bark, or to the point where the main stem breaks into limbs.

Utilization studies. Studies conducted on active logging operations to develop factors for merchantable portions of trees left in the woods (logging residues), logging damage, and utilization of the unmerchantable portion of growing-stock trees and nongrowing stock trees.

Veneer log. A roundwood product either rotary cut, sliced, stamped, or sawn into a variety of veneer products such as plywood, finished panels, veneer sheets, or sheathing.

Weight. A unit of measure for mill residues, expressed as oven-dry tons (2,000 oven-dry pounds).

Conversion Factors^a

Saw logs

Softwood	0.18393 cubic foot = 1 board foot 5.44 board feet = 1 cubic foot
Hardwood	0.17597 cubic foot = 1 board foot 5.68 board feet = 1 cubic foot

Veneer logs

Softwood	0.16260 cubic foot = 1 board foot 6.15 board feet = 1 cubic foot
Hardwood	0.16394 cubic foot = 1 board foot 6.10 board feet = 1 cubic foot

Pulpwood^b

Softwood	72.6 cubic feet per cord
Hardwood	76.4 cubic feet per cord

^a Conversion factors vary with stem size (d.b.h.) and species.

^b Cubic feet of solid wood per cord.

Index of Tables

1. Output of industrial products by product and species group, Alabama, 1997 and 1999
2. Roundwood receipts by product and species group, Alabama, 1997 and 1999
3. Number of primary wood-using plants by industry, Alabama, 1951–1999
4. Roundwood receipts by sawmill size, Alabama, 1997 and 1999
5. Roundwood receipts by species and type of mill, Alabama, 1999
6. Industrial roundwood movement by year and species group, Alabama, 1997 and 1999
7. Industrial roundwood movement by product and species group, Alabama, 1999
8. Saw-log volume by destination, source, and species group, Alabama, 1999
9. Veneer volume by destination, source, and species group, Alabama, 1999
10. Pulpwood volume by destination, source, and species group, Alabama, 1999
11. Other industrial volume by destination, source, and species group, Alabama, 1999
12. Primary mill residue volume by roundwood type, species group, and residue type, Alabama, 1999
13. Disposal of residue at primary wood-using plants by product, species group, and type of residue, Alabama, 1997 and 1999
14. Roundwood timber products output by product and species group, Southwest South Alabama, 1997 and 1999
15. Roundwood timber products output by county, product, and species group, Southwest South Alabama, 1999
16. Roundwood timber products output by product and species group, Southwest North Alabama, 1997 and 1999
17. Roundwood timber products output by county, product, and species group, Southwest North Alabama, 1999
18. Roundwood timber products output by product and species group, Southeast Alabama, 1997 and 1999
19. Roundwood timber products output by county, product, and species group, Southeast Alabama, 1999
20. Roundwood timber products output by product and species group, West Central Alabama, 1997 and 1999
21. Roundwood timber products output by county, product, and species group, West Central Alabama, 1999
22. Roundwood timber products output by product and species group, North Central Alabama, 1997 and 1999
23. Roundwood timber products output by county, product, and species group, North Central Alabama, 1999
24. Roundwood timber products output by product and species group, North Alabama, 1997 and 1999
25. Roundwood timber products output by county, product, and species group, North Alabama, 1999
26. Total roundwood output by product, species group, and source of material, Alabama, 1999
27. Total roundwood output by species group, survey unit, and ownership class, Alabama, 1999
28. Total roundwood output by species group, detailed species group, and product, Alabama, 1999
29. Total roundwood output by species group, detailed species group, and ownership class, Alabama, 1999

Table 1—Output of industrial products by product and species group, Alabama, 1997 and 1999

Product and species group	Year		Change	Percent change
	1997	1999		
Thousand cubic feet				
Saw logs				
Softwood	382,123	353,832	-28,291	-7.4
Hardwood	68,003	71,945	3,942	5.8
Total	450,126	425,777	-24,349	-5.4
Veneer logs				
Softwood	74,921	85,120	10,199	13.6
Hardwood	17,887	23,903	6,016	33.6
Total	92,808	109,023	16,215	17.5
Pulpwood ^a				
Softwood	462,596	417,631	-44,965	-9.7
Hardwood	302,310	223,048	-79,262	-26.2
Total	764,906	640,679	-124,227	-16.2
Other industrial				
Softwood	37,125	34,348	-2,777	-7.5
Hardwood	347	315	-32	-9.2
Total	37,472	34,663	-2,809	-7.5
All industrial				
Softwood	956,765	890,931	-65,834	-6.9
Hardwood	388,547	319,211	-69,336	-17.8
Total	1,345,312	1,210,142	-135,170	-10.0
Byproduct output				
Softwood	372,163	371,896	-267	-0.1
Hardwood	105,017	96,095	-8,922	-8.5
Total	477,180	467,991	-9,189	-1.9
Total output				
Softwood	1,328,928	1,262,827	-66,101	-5.0
Hardwood	493,564	415,306	-78,258	-15.9
Total	1,822,492	1,678,133	-144,359	-7.9

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulp mills (12,660,000 cubic feet in 1997 and 13,815,000 cubic feet in 1999).

Table 2—Roundwood receipts by product and species group, Alabama, 1997 and 1999

Product and species group	Year		Change	Percent change
	1997	1999		
Thousand cubic feet				
Saw logs				
Softwood	381,282	367,685	-13,597	-3.6
Hardwood	72,361	72,405	44	0.1
Total	453,643	440,090	-13,553	-3.0
Veneer logs				
Softwood	70,616	80,395	9,779	13.8
Hardwood	15,023	21,711	6,688	44.5
Total	85,639	102,106	16,467	19.2
Pulpwood ^a				
Softwood	434,793	420,900	-13,893	-3.2
Hardwood	408,424	323,212	-85,212	-20.9
Total	843,217	744,112	-99,105	-11.8
Other industrial				
Softwood	42,457	40,430	-2,027	-4.8
Hardwood	309	281	-28	-9.1
Total	42,766	40,711	-2,055	-4.8
Total output				
Softwood	929,148	909,410	-19,738	-2.1
Hardwood	496,117	417,609	-78,508	-15.8
Total	1,425,265	1,327,019	-98,246	-6.9

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulp mills (13,807,000 cubic feet in 1997 and 17,657,000 cubic feet in 1999).

Table 3—Number of primary wood-using plants by industry, Alabama, 1951–1999

Industry	Year							
	1951	1962	1971	1982	1985	1995	1997	1999
Sawmills	1,450	555	323	239	250	148	145	121
Veneer mills	42	34	32	28	28	23	26	23
Pulpmills	7	9	15	16	16	16	16	15
Composite panel mills	0	0	0	0	0	1	1	1
Other mills	71	47	36	35	47	23	24	21
All plants	1,570	645	406	318	341	211	212	181

Table 4—Roundwood receipts by sawmill size, Alabama, 1997 and 1999

Sawmill size class ^a	1997			1999		
	Number of mills	Thousand board feet	Percent of volume	Number of mills	Thousand board feet	Percent of volume
<i>Million board feet</i>						
< 1.0	29	7,780	0	23	5,015	0
1.0–4.99	40	102,742	4	26	65,379	3
5.0–9.99	26	180,637	8	23	163,007	7
10.0–49.99	31	650,386	26	29	651,268	26
> 50	19	1,541,767	62	20	1,588,985	64
Total	145	2,483,312	100	121	2,473,654	100

^a Based on volume received as opposed to actual capacity.

Table 5—Roundwood receipts by species and type of mill, Alabama, 1999

Species	Type of mill						
	All mills	Sawmills	Veneer mills		OSB ^a and panels	Pulpmills ^b	Other mills
			Pine plywood	Other veneer			
Thousand cubic feet							
Softwood							
Yellow pine	487,618	366,793	80,395	0	0	NA	40,430
White pine	0	0	0	0	0	NA	0
Cedar	54	54	0	0	0	NA	0
Cypress	396	396	0	0	0	NA	0
Other softwood	442	442	0	0	0	NA	0
Unclassified	420,900	0	0	0	0	420,900	0
Total softwoods	909,410	367,685	80,395	0	0	420,900	40,430
Hardwood							
Blackgum and tupelo	1,647	1,076	485	86	0	NA	0
Soft maple	564	192	0	372	0	NA	0
Sweetgum	9,775	4,699	1,026	4,050	0	NA	0
Yellow-poplar	16,602	10,532	1,651	4,138	0	NA	281
Other soft hardwood	2,360	655	332	1,373	0	NA	0
Hickory	2,281	2,162	33	86	0	NA	0
Red oak	44,477	38,030	2,354	4,093	0	NA	0
White oak	13,348	12,078	33	1,237	0	NA	0
Other hard hardwood	3,343	2,981	22	340	0	NA	0
Unclassified	323,212	0	0	0	0	323,212	0
Total hardwoods	417,609	72,405	5,936	15,775	0	323,212	281
All species	1,327,019	440,090	86,331	15,775	0	744,112	40,711

NA = not applicable.

^a OSB = oriented strand board.

^b Only collected by softwood and hardwood and includes roundwood chipped.

Table 6—Industrial roundwood movement by year and species group, Alabama, 1997 and 1999

Year	Production	Exported to other States	Retained	Imported from other States	Receipts
<i>Thousand cubic feet</i>					
Softwood					
1997	956,765	160,855	795,910	133,238	929,148
1999	890,931	130,432	760,499	148,911	909,410
Hardwood					
1997	388,547	43,531	345,016	151,101	496,117
1999	319,211	27,130	292,081	125,528	417,609
All species					
1997	1,345,312	204,386	1,140,926	284,339	1,425,265
1999	1,210,142	157,562	1,052,580	274,439	1,327,019

Table 7—Industrial roundwood movement by product and species group, Alabama, 1999

Product and species group	Production	Exported to other States	Retained	Imported from other States	Receipts
<i>Thousand cubic feet</i>					
Saw logs					
Softwood	353,832	41,429	312,403	55,282	367,685
Hardwood	71,945	7,410	64,535	7,870	72,405
Total	425,777	48,839	376,938	63,152	440,090
Veneer logs					
Softwood	85,120	11,059	74,061	6,334	80,395
Hardwood	23,903	3,408	20,495	1,216	21,711
Total	109,023	14,467	94,556	7,550	102,106
Pulpwood^a					
Softwood	417,631	77,524	340,107	80,793	420,900
Hardwood	223,048	16,264	206,784	116,428	323,212
Total	640,679	93,788	546,891	197,221	744,112
Other industrial					
Softwood	34,348	420	33,928	6,502	40,430
Hardwood	315	48	267	14	281
Total	34,663	468	34,195	6,516	40,711
All products					
Softwood	890,931	130,432	760,499	148,911	909,410
Hardwood	319,211	27,130	292,081	125,528	417,609
Total	1,210,142	157,562	1,052,580	274,439	1,327,019

^a Includes roundwood chipped.

Table 8—Saw-log volume by destination, source, and species group, Alabama, 1999

Destination and source	All species	Species group	
		Softwood	Hardwood
Thousand cubic feet			
Alabama (retained)	376,938	312,403	64,535
Exports to:			
Florida	3,266	3,260	6
Georgia	1,533	981	552
Mississippi	39,640	37,112	2,528
Tennessee	4,400	76	4,324
Total	48,839	41,429	7,410
Imports from:			
Florida	7,165	7,007	158
Georgia	24,948	23,319	1,629
Louisiana	355	0	355
Mississippi	18,802	13,876	4,926
Tennessee	11,882	11,080	802
Total	63,152	55,282	7,870

Table 9—Veneer volume by destination, source, and species group, Alabama, 1999

Destination and source	All species	Species group	
		Softwood	Hardwood
<i>Thousand cubic feet</i>			
Alabama (retained)	94,556	74,061	20,495
Exports to:			
Florida	622	622	0
Georgia	5,233	2,319	2,914
Mississippi	8,561	8,118	443
North Carolina	51	0	51
Total	14,467	11,059	3,408
Imports from:			
Florida	122	0	122
Georgia	3,620	3,154	466
Mississippi	3,493	2,865	628
Tennessee	315	315	0
Total	7,550	6,334	1,216

Table 10—Pulpwood volume by destination, source, and species group, Alabama, 1999^a

Destination and source	All species	Species group	
		Softwood	Hardwood
Thousand cubic feet			
Alabama (retained)	546,891	340,107	206,784
Exports to:			
Florida	22,298	13,102	9,196
Georgia	34,502	29,889	4,613
Louisiana	3	0	3
Mississippi	20,976	20,895	81
Tennessee	16,008	13,638	2,370
Texas	1	0	1
Total	93,788	77,524	16,264
Imports from:			
Arkansas	7	5	2
Florida	6,613	5,461	1,152
Georgia	66,940	50,232	16,708
Kentucky	345	0	345
Louisiana	28	2	26
Mississippi	91,757	20,619	71,138
South Carolina	888	888	0
Tennessee	30,640	3,583	27,057
Texas	3	3	0
Total	197,221	80,793	116,428

^a Includes roundwood chipped.

Table 11—Other industrial volume by destination, source, and species group, Alabama, 1999^a

Destination and source	All species	Species group	
		Softwood	Hardwood
Thousand cubic feet			
Alabama (retained)	34,195	33,928	267
Exports to:			
Florida	156	156	0
Georgia	74	26	48
Mississippi	112	112	0
Virginia	126	126	0
Total	468	420	48
Imports from:			
Florida	5,562	5,562	0
Georgia	347	341	6
Mississippi	473	468	5
Tennessee	134	131	3
Total	6,516	6,502	14

^a Includes composite panels, poles, posts, mulch, firewood, log homes, charcoal, and all other industrial products.

Table 12—Primary mill residue volume by roundwood type, species group, and residue type, Alabama, 1999

Roundwood type and species group	All types	Residue type			
		Bark	Coarse	Sawdust	Shavings
Thousand cubic feet					
Saw logs					
Softwood	222,619	33,120	104,478	55,120	29,901
Hardwood	40,664	8,268	15,537	15,183	1,676
Total	263,283	41,388	120,015	70,303	31,577
Veneer logs					
Softwood	53,597	7,623	25,198	20,776	0
Hardwood	14,946	2,556	5,786	6,604	0
Total	68,543	10,179	30,984	27,380	0
Pulpwood					
Softwood	43,162	43,162	0	0	0
Hardwood	40,545	40,545	0	0	0
Total	83,707	83,707	0	0	0
Other industrial ^a					
Softwood	53,210	32,505	20,705	0	0
Hardwood	72	72	0	0	0
Total	53,282	32,577	20,705	0	0
Total					
Softwood	372,588	116,410	150,381	75,896	29,901
Hardwood	96,227	51,441	21,323	21,787	1,676
Total	468,815	167,851	171,704	97,683	31,577

^a Includes poles, pilings, posts, and other industrial products.

Table 13—Disposal of residue at primary wood-using plants by product, species group, and type of residue, Alabama, 1997 and 1999

Product and species group	All types		Bark		Coarse		Sawdust		Shavings	
	1997	1999	1997	1999	1997	1999	1997	1999	1997	1999
<i>Thousand cubic feet</i>										
Fiber products										
Softwood	119,714	123,697	0	0	116,089	120,310	3,541	102	84	3,285
Hardwood	20,246	17,603	0	0	18,490	17,588	1,520	0	236	15
Total	139,960	141,300	0	0	134,579	137,898	5,061	102	320	3,300
Particleboard										
Softwood	17,487	25,790	0	0	981	3,013	5,734	6,613	10,772	16,164
Hardwood	719	522	0	0	719	442	0		0	80
Total	18,206	26,312	0	0	1,700	3,455	5,734	6,613	10,772	16,244
Sawn products										
Softwood	8,151	2,295	0	0	8,151	2,295	0	0	0	0
Hardwood	1,547	959	0	0	1,547	959	0	0	0	0
Total	9,698	3,254	0	0	9,698	3,254	0	0	0	0
Fuel										
Softwood	200,540	191,811	105,893	100,328	26,654	24,146	53,547	60,194	14,446	7,143
Hardwood	80,350	72,500	59,678	49,790	3,186	2,311	16,395	19,086	1,091	1,313
Total	280,890	264,311	165,571	150,118	29,840	26,457	69,942	79,280	15,537	8,456
Miscellaneous										
Softwood	26,207	28,303	11,329	15,920	448	552	11,612	8,587	2,818	3,244
Hardwood	2,155	4,511	1,020	1,645	171	10	910	2,588	54	268
Total	28,362	32,814	12,349	17,565	619	562	12,522	11,175	2,872	3,512
Not used										
Softwood	1,982	692	1,110	162	58	65	657	400	157	65
Hardwood	757	132	334	6	288	13	135	113	0	0
Total	2,739	824	1,444	168	346	78	792	513	157	65
All products										
Softwood	374,145	372,588	118,332	116,410	152,381	150,381	75,091	75,896	28,341	29,901
Hardwood	105,774	96,227	61,032	51,441	24,401	21,323	18,960	21,787	1,381	1,676
Total	479,919	468,815	179,364	167,851	176,782	171,704	94,051	97,683	29,722	31,577

Table 14—Roundwood timber products output by product and species group, Southwest South Alabama, 1997 and 1999

Product and species group	Year		Change	Percent change
	1997	1999		
Thousand cubic feet				
Saw logs				
Softwood	43,641	45,657	2,016	4.6
Hardwood	5,424	4,516	-908	-16.7
Total	49,065	50,173	1,108	2.3
Veneer logs				
Softwood	8,534	6,914	-1,620	-19.0
Hardwood	777	1,525	748	96.3
Total	9,311	8,439	-872	-9.4
Pulpwood ^a				
Softwood	59,853	48,199	-11,654	-19.5
Hardwood	22,402	20,519	-1,883	-8.4
Total	82,255	68,718	-13,537	-16.5
Other industrial				
Softwood	10,888	6,631	-4,257	-39.1
Hardwood	0	0	0	--
Total	10,888	6,631	-4,257	-39.1
All industrial				
Softwood	122,916	107,401	-15,515	-12.6
Hardwood	28,603	26,560	-2,043	-7.1
Total	151,519	133,961	-17,558	-11.6

-- = negligible.

^a Includes roundwood that was delivered to nonpulpmills and then chipped and sold to pulpmills (204,000 cubic feet in 1997 and 468,000 cubic feet in 1999).

Table 15—Roundwood timber products output by county, product, and species group, Southwest South Alabama, 1999

County	All products		Saw logs		Veneer logs		Pulpwood		Other industrial	
	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood
<i>Thousand cubic feet</i>										
Baldwin	27,323	5,349	12,170	1,540	1,417	488	11,083	3,321	2,653	0
Covington	17,026	3,053	4,133	595	1,715	321	10,471	2,137	707	0
Escambia	21,305	3,966	6,569	262	467	107	12,641	3,597	1,628	0
Mobile	15,402	4,332	8,396	248	881	141	5,560	3,943	565	0
Washington	26,345	9,860	14,389	1,871	2,434	468	8,444	7,521	1,078	0
All counties	107,401	26,560	45,657	4,516	6,914	1,525	48,199	20,519	6,631	0

^a Includes roundwood that was delivered to nonpulpmills and then chipped and sold to pulpmills (468,000 cubic feet in 1999).

Table 16—Roundwood timber products output by product and species group, Southwest North Alabama, 1997 and 1999

Product and species group	Year		Change	Percent change
	1997	1999		
Thousand cubic feet				
Saw logs				
Softwood	94,938	95,661	723	0.8
Hardwood	14,686	19,830	5,144	35.0
Total	109,624	115,491	5,867	5.4
Veneer logs				
Softwood	20,094	30,924	10,830	53.9
Hardwood	3,232	6,875	3,643	112.7
Total	23,326	37,799	14,473	62.0
Pulpwood ^a				
Softwood	104,332	98,031	-6,301	-6.0
Hardwood	56,614	56,285	-329	-0.6
Total	160,946	154,316	-6,630	-4.1
Other industrial				
Softwood	3,331	4,527	1,196	35.9
Hardwood	5	0	-5	--
Total	3,336	4,527	1,191	35.7
All industrial				
Softwood	222,695	229,143	6,448	2.9
Hardwood	74,537	82,990	8,453	11.3
Total	297,232	312,133	14,901	5.0

-- = negligible.

^a Includes roundwood that was delivered to nonpulp mills and then chipped and sold to pulp mills (530,000 cubic feet in 1997 and 2,078,000 cubic feet in 1999).

Table 17—Roundwood timber products output by county, product, and species group, Southwest North Alabama, 1999

County	All products		Saw logs		Veneer logs		Pulpwood ^a		Other industrial	
	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood
<i>Thousand cubic feet</i>										
Choctaw	33,909	13,809	15,786	2,302	3,383	1,518	14,219	9,989	521	0
Clarke	42,186	17,854	20,151	3,492	7,151	1,668	13,841	12,694	1,043	0
Conecuh	37,054	4,885	11,933	584	4,677	0	19,887	4,301	557	0
Marengo	24,788	17,433	11,888	6,881	2,321	1,834	10,247	8,718	332	0
Monroe	36,035	9,631	13,457	1,230	6,456	454	15,053	7,947	1,069	0
Sumter	20,301	7,601	8,355	1,289	1,934	858	9,800	5,454	212	0
Wilcox	34,870	11,777	14,091	4,052	5,002	543	14,984	7,182	793	0
All counties	229,143	82,990	95,661	19,830	30,924	6,875	98,031	56,285	4,527	0

^a Includes roundwood that was delivered to nonpulp mills and then chipped and sold to pulp mills (2,078,000 cubic feet in 1999).

Table 18—Roundwood timber products output by product and species group, Southeast Alabama, 1997 and 1999

Product and species group	Year		Change	Percent change
	1997	1999		
Thousand cubic feet				
Saw logs				
Softwood	83,229	69,853	-13,376	-16.1
Hardwood	12,546	12,328	-218	-1.7
Total	95,775	82,181	-13,594	-14.2
Veneer logs				
Softwood	19,648	24,061	4,413	22.5
Hardwood	8,111	8,156	45	0.6
Total	27,759	32,217	4,458	16.1
Pulpwood ^a				
Softwood	144,571	151,448	6,877	4.8
Hardwood	81,233	58,670	-22,563	-27.8
Total	225,804	210,118	-15,686	-6.9
Other industrial				
Softwood	1,621	2,549	928	57.2
Hardwood	0	0	0	--
Total	1,621	2,549	928	57.2
All industrial				
Softwood	249,069	247,911	-1,158	-0.5
Hardwood	101,890	79,154	-22,736	-22.3
Total	350,959	327,065	-23,894	-6.8

-- = negligible.

^a Includes roundwood that was delivered to nonpulpmills and then chipped and sold to pulpmills (6,103,000 cubic feet in 1997 and 4,313,000 cubic feet in 1999).

**Table 19—Roundwood timber products output by county, product, and species group,
Southeast Alabama, 1999**

County	All products		Saw logs		Veneer logs		Pulpwood ^a		Other industrial	
	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood
<i>Thousand cubic feet</i>										
Autauga	7,539	3,464	1,611	342	2,136	324	3,763	2,798	29	0
Barbour	19,284	7,278	7,993	802	0	472	11,291	6,004	0	0
Bullock	10,097	1,965	979	193	2,092	670	7,026	1,102	0	0
Butler	34,639	5,086	10,909	706	9,370	310	13,629	4,070	731	0
Chambers	15,220	4,589	5,933	380	779	638	8,508	3,571	0	0
Chilton	8,572	4,828	2,807	1,923	974	442	4,676	2,463	115	0
Coffee	26,489	1,633	1,925	108	469	101	24,089	1,424	6	0
Crenshaw	11,148	3,222	3,270	547	1,342	312	6,466	2,363	70	0
Dale	6,590	3,353	3,132	486	124	734	3,334	2,133	0	0
Dallas	9,159	10,245	2,493	2,968	188	297	6,444	6,980	34	0
Elmore	5,481	1,877	188	406	1,508	528	3,785	943	0	0
Geneva	6,104	2,458	865	212	0	121	4,684	2,125	555	0
Henry	6,898	4,064	2,641	160	124	608	3,582	3,296	551	0
Houston	4,557	2,805	863	124	373	921	2,908	1,760	413	0
Lee	11,049	2,600	3,638	90	268	189	7,116	2,321	27	0
Lowndes	10,523	3,517	2,903	249	1,594	222	6,020	3,046	6	0
Macon	11,878	2,755	3,769	488	0	320	8,109	1,947	0	0
Montgomery	5,812	3,179	598	1,083	1,158	179	4,050	1,917	6	0
Pike	5,668	2,126	1,154	562	563	280	3,945	1,284	6	0
Russell	13,708	4,132	5,084	158	0	79	8,624	3,895	0	0
Tallapoosa	17,496	3,978	7,098	341	999	409	9,399	3,228	0	0
All counties	247,911	79,154	69,853	12,328	24,061	8,156	151,448	58,670	2,549	0

^a Includes roundwood that was delivered to nonpulpmills and then chipped and sold to pulpmills (4,313,000 cubic feet in 1999).

Table 20—Roundwood timber products output by product and species group, West Central Alabama, 1997 and 1999

Product and species group	Year		Change	Percent change
	1997	1999		
Thousand cubic feet				
Saw logs				
Softwood	70,882	73,747	2,865	4.0
Hardwood	13,127	13,530	403	3.1
Total	84,009	87,277	3,268	3.9
Veneer logs				
Softwood	7,743	6,680	-1,063	-13.7
Hardwood	2,044	3,758	1,714	83.9
Total	9,787	10,438	651	6.7
Pulpwood ^a				
Softwood	39,334	37,494	-1,840	-4.7
Hardwood	48,319	28,768	-19,551	-40.5
Total	87,653	66,262	-21,391	-24.4
Other industrial				
Softwood	5,838	6,422	584	10.0
Hardwood	0	0	0	--
Total	5,838	6,422	584	10.0
All industrial				
Softwood	123,797	124,343	546	0.4
Hardwood	63,490	46,056	-17,434	-27.5
Total	187,287	170,399	-16,888	-9.0

-- = negligible.

^a Includes roundwood that was delivered to nonpulp mills and then chipped and sold to pulp mills (2,318,000 cubic feet in 1997 and 3,756,000 cubic feet in 1999).

**Table 21—Roundwood timber products output by county, product, and species group,
West Central Alabama, 1999**

County	All products		Saw logs		Veneer logs		Pulpwood ^a		Other industrial	
	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood
<i>Thousand cubic feet</i>										
Bibb	14,791	5,209	5,262	929	471	738	4,162	3,542	4,896	0
Fayette	13,359	2,948	8,416	1,105	1,035	121	3,908	1,722	0	0
Greene	11,132	6,573	7,793	2,470	517	776	2,654	3,327	168	0
Hale	9,201	6,154	4,809	2,195	517	197	3,697	3,762	178	0
Lamar	13,479	4,102	8,735	1,095	1,035	121	3,709	2,886	0	0
Marion	15,822	2,890	7,411	635	1,035	121	7,376	2,134	0	0
Perry	11,545	3,384	4,382	415	0	179	6,433	2,790	730	0
Pickens	17,735	7,335	13,965	2,195	1,035	812	2,530	4,328	205	0
Tuscaloosa	17,279	7,461	12,974	2,491	1,035	693	3,025	4,277	245	0
All counties	124,343	46,056	73,747	13,530	6,680	3,758	37,494	28,768	6,422	0

^a Includes roundwood that was delivered to nonpulp mills and then chipped and sold to pulp mills (3,756,000 cubic feet in 1999).

Table 22—Roundwood timber products output by product and species group, North Central Alabama, 1997 and 1999

Product and species group	Year		Change	Percent change
	1997	1999		
Thousand cubic feet				
Saw logs				
Softwood	74,425	59,820	-14,605	-19.6
Hardwood	11,581	8,956	-2,625	-22.7
Total	86,006	68,776	-17,230	-20.0
Veneer logs				
Softwood	17,037	15,706	-1,331	-7.8
Hardwood	3,602	3,266	-336	-9.3
Total	20,639	18,972	-1,667	-8.1
Pulpwood ^a				
Softwood	99,100	69,455	-29,645	-29.9
Hardwood	65,004	36,277	-28,727	-44.2
Total	164,104	105,732	-58,372	-35.6
Other industrial				
Softwood	14,466	13,434	-1,032	-7.1
Hardwood	328	301	-27	-8.2
Total	14,794	13,735	-1,059	-7.2
All industrial				
Softwood	205,028	158,415	-46,613	-22.7
Hardwood	80,515	48,800	-31,715	-39.4
Total	285,543	207,215	-78,328	-27.4

^a Includes roundwood that was delivered to nonpulp mills and then chipped and sold to pulp mills (3,232,000 cubic feet in 1997 and 2,819,000 cubic feet in 1999).

**Table 23—Roundwood timber products output by county, product, and species group,
North Central Alabama, 1999**

County	All products		Saw logs		Veneer logs		Pulpwood ^a		Other industrial	
	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood
<i>Thousand cubic feet</i>										
Blount	7,040	1,730	2,627	126	314	399	1,471	1,149	2,628	56
Calhoun	3,931	1,806	1,292	36	785	0	1,849	1,770	5	0
Cherokee	1,828	1,943	141	150	0	0	1,687	1,793	0	0
Clay	15,419	3,849	3,337	688	2,042	169	5,440	2,893	4,600	99
Cleburne	9,085	3,333	1,755	402	1,746	155	5,584	2,728	0	48
Coosa	14,928	3,546	3,549	489	1,619	288	9,743	2,769	17	0
Cullman	11,740	3,207	5,995	1,646	832	61	2,285	1,444	2,628	56
Etowah	2,771	2,940	933	208	785	179	1,048	2,553	5	0
Jefferson	13,400	2,746	7,731	1,706	706	289	3,608	737	1,355	14
Randolph	10,825	2,165	3,402	203	999	148	6,424	1,814	0	0
St. Clair	7,734	2,940	1,215	159	2,420	44	4,099	2,737	0	0
Shelby	15,721	2,635	9,064	514	974	400	4,834	1,721	849	0
Talladega	9,882	4,088	1,967	388	1,760	1,049	6,142	2,651	13	0
Walker	20,320	9,465	11,654	857	517	61	8,129	8,547	20	0
Winston	13,791	2,407	5,158	1,384	207	24	7,112	971	1,314	28
All counties	158,415	48,800	59,820	8,956	15,706	3,266	69,455	36,277	13,434	301

^a Includes roundwood that was delivered to nonpulpmills and then chipped and sold to pulpmills (2,819,000 cubic feet in 1999).

Table 24—Roundwood timber products output by product and species group, North Alabama, 1997 and 1999

Product and species group	Year		Change	Percent change
	1997	1999		
Thousand cubic feet				
Saw logs				
Softwood	15,008	9,094	-5,914	-39.4
Hardwood	10,639	12,785	2,146	20.2
Total	25,647	21,879	-3,768	-14.7
Veneer logs				
Softwood	1,865	835	-1,030	-55.2
Hardwood	121	323	202	166.9
Total	1,986	1,158	-828	-41.7
Pulpwood ^a				
Softwood	15,406	13,004	-2,402	-15.6
Hardwood	28,738	22,529	-6,209	-21.6
Total	44,144	35,533	-8,611	-19.5
Other industrial				
Softwood	981	785	-196	20.0
Hardwood	14	14	0	--
Total	995	128	-867	20.0
All industrial				
Softwood	33,260	23,718	-9,542	-28.7
Hardwood	39,512	35,651	-3,861	-9.8
Total	72,772	59,369	-13,403	-18.4

-- = negligible.

^a Includes roundwood that was delivered to nonpulp mills and then chipped and sold to pulp mills (273,000 cubic feet in 1997 and 381,000 cubic feet in 1999).

**Table 25—Roundwood timber products output by county, product, and species group,
North Alabama, 1999**

County	All products		Saw logs		Veneer logs		Pulpwood ^a		Other industrial	
	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood
<i>Thousand cubic feet</i>										
Colbert	2,370	2,080	563	737	0	0	1,807	1,343	0	0
De Kalb	1,657	4,102	285	1,037	314	105	1,058	2,960	0	0
Franklin	5,893	4,629	1,072	822	207	68	4,614	3,739	0	0
Jackson	2,809	9,513	1,130	4,465	0	150	1,551	4,898	128	0
Lauderdale	1,750	5,078	927	2,161	0	0	823	2,917	0	0
Lawrence	1,815	2,937	1,073	1,022	0	0	742	1,915	0	0
Limestone	569	1,665	131	702	0	0	438	963	0	0
Madison	476	1,705	266	1,113	0	0	210	592	0	0
Marshall	3,869	2,257	2,513	554	314	0	385	1,689	657	14
Morgan	2,510	1,685	1,134	172	0	0	1,376	1,513	0	0
All counties	23,718	35,651	9,094	12,785	835	323	13,004	22,529	785	14

^a Includes roundwood that was delivered to nonpulp mills and then chipped and sold to pulpmills (381,000 cubic feet in 1999).

Table 26—Total roundwood output by product, species group, and source of material, Alabama, 1999

Product and species group	All sources	Total	Growing-stock trees		Other sources
			Sawtimber	Poletimber	
Thousand cubic feet					
Saw logs					
Softwood	353,833	341,916	320,928	20,988	11,917
Hardwood	71,945	70,260	66,747	3,513	1,685
Total	425,778	412,176	387,675	24,501	13,602
Veneer logs and bolts					
Softwood	85,120	82,541	78,371	4,170	2,579
Hardwood	23,903	23,490	23,490	0	413
Total	109,023	106,031	101,861	4,170	2,992
Pulpwood					
Softwood	417,630	375,596	194,032	181,564	42,034
Hardwood	223,048	196,238	101,558	94,680	26,810
Total	640,678	571,834	295,590	276,244	68,844
Poles and posts					
Softwood	21,837	20,949	20,126	823	888
Hardwood	0	0	0	0	0
Total	21,837	20,949	20,126	823	888
Other miscellaneous					
Softwood	12,511	9,938	2,912	7,026	2,573
Hardwood	316	287	132	155	29
Total	12,827	10,225	3,044	7,181	2,602
Total industrial products					
Softwood	890,931	830,940	616,369	214,571	59,991
Hardwood	319,212	290,275	191,927	98,348	28,937
Total	1,210,143	1,121,215	808,296	312,919	88,928
Fuelwood					
Softwood	4,228	1,921	1,309	612	2,307
Hardwood	27,109	20,849	18,166	2,683	6,260
Total	31,337	22,770	19,475	3,295	8,567
All products					
Softwood	895,159	832,861	617,678	215,183	62,298
Hardwood	346,321	311,124	210,093	101,031	35,197
Total	1,241,480	1,143,985	827,771	316,214	97,495

Numbers in rows and columns may not add due to rounding.

Table 27—Total roundwood output by species group, survey region, and ownership, Alabama, 1999

Species group and survey region	Total	National forest	Other public	Forest industry	Nonindustrial private
<i>Thousand cubic feet</i>					
Softwoods					
Southwest South	107,911	2,019	954	26,664	78,274
Southwest North	230,230	0	6,180	74,620	149,431
Southeast	249,088	2,366	1,389	84,827	160,506
West Central	124,933	4,855	1,201	40,703	78,174
North Central	159,167	9,003	2,269	31,039	116,857
North	23,830	92	326	4,211	19,200
Total softwoods	895,159	18,336	12,318	262,064	602,441
Hardwoods					
Southwest South	28,815	0	266	9,669	18,880
Southwest North	90,039	0	919	22,444	66,676
Southeast	85,878	108	192	15,249	70,329
West Central	49,966	265	2,014	7,540	40,146
North Central	52,944	2,363	973	6,681	42,928
North	38,678	0	1,577	1,792	35,308
Total hardwoods	346,320	2,737	5,941	63,375	274,268
All species	1,241,479	21,072	18,259	325,439	876,709

Numbers in rows and columns may not add due to rounding.

**Table 28—Total roundwood output by species group, detailed species group, and product,
Alabama, 1999**

Species group and detailed species group	Total	Product					
		Saw log	Veneer	Pulpwood	Poles and posts	Other miscellaneous	Fuelwood
Thousand cubic feet							
Softwood							
Cedar	2,910	1,254	330	1,260	51	2	14
Longleaf-slash pine	126,321	50,368	10,882	57,599	6,218	657	597
Loblolly-shortleaf pine	721,217	282,089	70,748	339,722	14,912	10,338	3,406
Other yellow pines	43,932	19,757	3,118	18,744	592	1,514	207
Cypress	779	364	41	306	64	0	4
Total softwoods	895,159	353,832	85,120	417,631	21,837	12,511	4,228
Hardwood							
Soft maple	7,908	1,649	504	5,127	0	9	619
Hard maple	909	255	26	557	0	0	71
Other birch	1,486	495	59	815	0	0	116
Hickory	23,396	5,492	1,479	14,557	0	36	1,831
Beech	1,603	257	130	1,087	0	4	125
Ash	5,231	1,130	328	3,360	0	4	410
Sweetgum	67,136	12,921	5,069	43,854	0	36	5,256
Yellow-poplar	28,979	6,151	2,299	18,202	0	59	2,268
Blackgum-tupelo	14,577	2,632	1,014	9,788	0	2	1,141
Sycamore	2,011	519	170	1,164	0	0	157
Black cherry	2,211	631	127	1,275	0	5	173
Select white oaks	29,903	7,215	1,395	18,924	0	28	2,341
Other white oaks	22,912	4,955	1,333	14,794	0	37	1,793
Select red oaks	9,379	2,043	694	5,895	0	13	734
Other red oaks	97,033	19,463	6,693	63,207	0	74	7,595
Basswood	621	199	44	330	0	0	49
Elm	4,154	962	414	2,453	0	0	325
Other Eastern hardwoods	0 26,869	0 4,975	0 2,125	0 17,659	0 0	0 7	0 2,103
Total hardwoods	346,319	71,945	23,903	223,048	0	315	27,109
All species	1,241,479	425,777	109,023	640,679	21,837	12,826	31,337

Numbers in rows and columns may not add due to rounding.

Table 29—Total roundwood output by species group, detailed species group, and ownership, Alabama, 1999

Species group and detailed species group	Total	National forest	Other public	Forest industry	Nonindustrial private
<i>Thousand cubic feet</i>					
Softwood					
Cedar	2,910	4	88	719	2,099
Longleaf-slash pine	126,321	1,748	1,155	38,608	84,810
Loblolly-shortleaf pine	721,217	13,825	10,332	213,994	483,066
Other yellow pines	43,932	2,758	728	8,506	31,940
Cypress	779	0	14	238	527
Total softwoods	895,159	18,336	12,318	262,064	602,441
Hardwood					
Soft maple	7,908	101	73	1,462	6,271
Hard maple	909	0	25	32	851
Other birch	1,486	0	66	147	1,273
Hickory	23,396	171	506	3,404	19,315
Beech	1,603	76	4	203	1,320
Ash	5,231	28	121	1,185	3,896
Sweetgum	67,137	441	975	13,511	52,210
Yellow-poplar	28,979	297	436	5,296	22,949
Blackgum-tupelo	14,577	24	167	5,224	9,162
Sycamore	2,011	20	7	644	1,340
Black cherry	2,211	14	5	258	1,935
Select white oaks	29,903	244	573	3,682	25,404
Other white oaks	22,912	173	600	3,312	18,828
Select red oaks	9,379	61	329	1,443	7,547
Other red oaks	97,032	825	1,750	16,197	78,260
Basswood	621	0	0	173	448
Elm	4,154	18	53	950	3,133
Other Eastern hardwoods	26,870	242	251	6,251	20,125
Total hardwoods	346,320	2,737	5,941	63,375	274,268
All species	1,241,479	21,072	18,259	325,439	876,709

Numbers in rows and columns may not add due to rounding.



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Howell, Michael; Gober, Jim R.; Nix, J. Stephen. 2002. Alabama's timber industry—an assessment of timber product output and use, 1999. Resour. Bull. SRS-75. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. 39 p.

In 1999, roundwood output from Alabama's forests totaled 1.2 billion cubic feet. Mill byproducts generated from primary manufacturers amounted to 469 million cubic feet. Almost all plant residues were used primarily for fuel and fiber products. Pulpwood was the leading roundwood product at 641 million cubic feet; saw logs ranked second at 426 million cubic feet; veneer logs were third at 109 million cubic feet. The number of primary processing plants was 181. Total receipts amounted to 1.3 billion cubic feet.

Keywords: Pulpwood, residues, roundwood, saw logs, veneer logs, wood movement.

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